

WHAT IS CLAIMED IS:

1. An image forming device comprising:

an object to be biased;

a bias applying power source that applies a bias to
5 the object, the bias applying power source comprising a
forward bias applying circuit and a reverse bias applying
circuit connected in series to the object, the forward bias
applying circuit applying a forward bias to the object
according to a constant current control and comprising a
10 voltage detecting circuit that detects an output voltage
from the forward bias applying circuit; and

resistance detecting means for detecting a resistance
on the object based on the output voltage detected by the
voltage detecting circuit and a resistance on the reverse
15 bias applying circuit when the forward bias applying circuit
executes constant current control.

2. The image forming device according to claim 1,
wherein the forward bias applying circuit further comprises
a booster circuit connected to the object, the booster
20 circuit including a transformer having a primary winding,
secondary winding, and an auxiliary winding to which the
voltage detecting circuit is connected.

3. The image forming device according to claim 2,
wherein the auxiliary winding is provided at a primary
25 winding side.

4. The image forming device according to claim 3,
wherein the resistance detecting means determines the
resistance on the object based on equation $Z = (\alpha V_e - R i_1) / i_1$,
where Z is a resistance on the object, α is a ratio of
5 voltages in the secondary winding and auxiliary winding, V_e
is a voltage detected by the voltage detecting circuit, R is
a resistance on the reverse bias applying circuit, and i_1 is
a constant current set for constant current control.

5. The image forming device according to claim 4,
10 wherein equation

$$Z' = \{(\alpha \pm A) \cdot (V_e \pm B) \cdot D - (R \pm E)(i_1 \pm F) \pm G\} / (i_1 \pm H)$$

is employed in lieu of the equation $Z = (\alpha V_e - R i_1) / i_1$ in
order to take factors or causes that vary the resistance
value Z into consideration where A, B, D, E, F, G and H
15 represent numerals determined depending on the factors or
causes that vary the resistance value Z.

6. The image forming device according to claim 1,
wherein the forward bias applying circuit determines and
applies a bias value based on a resistance on the object
20 detected by the resistance detecting means.

7. The image forming device according to claim 1,
further comprising an image carrying member for carrying a
developer image, the image carrying member being disposed in
contact with the object.

8. The image forming device according to claim 7,

wherein the object is a transfer roller and the image carrying member is a photosensitive drum wherein the transfer roller transfers the developer image on the photosensitive drum onto a sheet of paper.

5 9. The image forming device according to claim 1, wherein the object is a roller member formed of a resilient ion-conducting material.

10 10. An image forming device comprising:

 a photosensitive member that forms a latent image thereon;

 a developing roller that develops the latent image and provides a toner image using toner;

 a transfer roller that transfers the toner image onto a sheet of paper;

15 a bias applying circuit that output a voltage to the transfer roller, a closed circuit being configured by at least the bias applying circuit and the transfer roller, a resistance being imposed on the bias applying circuit;

20 a voltage detecting circuit that detects the voltage output from the bias applying circuit; and

 a controller that detects the resistance imposed on the bias applying circuit.

25 11. The image forming device according to claim 10, further comprising a constant current controlling circuit that controls a current flowing in the closed circuit to be

a predetermined constant based on the voltage detected by the voltage detecting circuit and the resistance detected by the controller.